

CLAIMS

1. A low-emissivity multilayer system, capable of being highly stressed thermally, for glazing panes,
5 with silver as functional layer, a sacrificial metal layer placed above the silver layer, antireflection dielectric layers and an oxide, nitride or oxynitride covering layer, characterized in that the sacrificial metal layer consists of Ti or an alloy of Ti and Zn
10 and/or Al, and contains chemically bonded hydrogen, and in that a ZnO layer optionally doped with Al and/or In is joined to the sacrificial metal layer and in that the covering layer consists of a titanium compound.
- 15 2. The multilayer system as claimed in claim 1, characterized in that the sacrificial metal layer consists of a TiAl alloy containing 20 to 50% Al by weight.
- 20 3. The multilayer system as claimed in claim 1 or 2, characterized in that the sacrificial metal layer has a layer thickness of 1 to 5 nm.
4. The multilayer system as claimed in claims 1 to 3,
25 characterized in that the ZnO layer contains 0.5 to 10% Al and/or In by weight.
5. The multilayer system as claimed in claim 4, characterized in that the ZnO layer has a thickness of
30 at least 3 nm.
6. The multilayer system as claimed in one of claims 1 to 5, characterized in that an SnO₂, Si₃N₄, ZnO, Al₂O₃ and/or SiO₂ layer is placed as partial layer
35 of the upper antireflection dielectric layer between the ZnO layer and the covering layer.
7. The multilayer system as claimed in one of claims 1 to 6, characterized in that the covering layer

consists of Al:ZnO/TiO₂, Al:ZnO/Ti, Zn_xSn_yO_z/TiO₂, Zn_xSn_yO_z/Ti, Zn_xTi_yAl_zO_r, Ti_xAl_yO_z, Ti_xAl_y, Ti_xAl_yN_z, Ti_xAl_yO_zN_r, Zn_xSn_ySb_zO_r/TiO₂, Zn_xSn_ySb_zO_r/Ti or Zn_xSn_yAl_zO_r/TiO₂.

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8. The multilayer system as claimed in one of claims 1 to 7, characterized by the multilayer structure:

glass/SnO₂/Al:ZnO/Ag/TiAl(TiH_x)/Al:ZnO/SnO₂/Al:ZnO/Ti_xAl_y

10 O_zN_r.